

# A Case of Auricular Chondroma

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Extraskelatal chondroma is a rare benign tumor that develops in the soft tissues, and it manifests as a solitary subcutaneous nodule or a slowly growing tumor. It occurs preferentially in the hand and foot area of adults, and the development in the auricle is very rare. We report a rare case of chondroma that developed in the auricle, which were treated with wedge excision and reconstructed using a Burow's triangle, with a review of the literature.

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**KEY WORDS:** Extraskelatal chondroma · Auricle · Helix reconstruction · Burow's triangle.

## Introduction

Extraskelatal or soft-tissue chondroma is a rare benign cartilaginous tumor that develops in the soft tissues without bone or joint involvement, occurring predominantly in the hands and feet of adults in their third and fourth decades of life.<sup>1)</sup> Clinically, it manifests as a slowly growing subcutaneous nodule, and the diameter is less than 3 cm in most cases, with a development in the facial area reported very rarely. However, the presence of this tumor has been described in the head and neck region, mainly in the tongue, and less likely in the cheek, neck, parotid gland, parapharyngeal space, masticatory space, and masseter muscle,<sup>2)</sup> with the age of onset usually between 30–60 years of age. The case presented here is of a particular interest because of the exceptional location of the tumor, and a matter of reconstruction of a defect after the removal. We were unable to find any analogous report in the literature except for only two reports describing cases of extraskelatal chondroma in the auricle.<sup>2,3)</sup> In the presenting case, we report a rare case of chondroma that developed in the auricle, which were treated with wedge excision and reconstructed using a Burow's triangle.

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## Case Report

52-year old male patient visited our clinic presenting with an unilateral mass of the auricle for several years. Physical examination revealed a 1.5 × 1.5 cm sized painless, hard mass accompanying a nodular irregularity, located on the superior portion of the helix (Fig. 1). Surgical removal was performed under a local anesthesia. A 1.0 × 0.8 cm sized firm, round, and well-encapsulated mass was completely removed by wedge excision (Fig. 2A), and the remaining defect was approximated with a creation of Burow's triangle in the scapha (Fig. 2B, C). Histopathologic examination revealed a mass consisted of an acidophilic hyalinized matrix with cartilage cells scattered among them, and in the center, local calcification was observed. Tumor cells had cytoplasm with a distinct border, and the nuclei were of a circular or an oval form; atypical or abnormal mitosis was not observed (Fig. 3). There was no recurrence at the 12-month follow-up.

## Discussion

Histologically, extraskelatal or soft-tissue chondroma is a lobulated nodule surrounded by a fibrous capsule filled with mature hyalinized cartilage tissue, with no association of underlying bone.<sup>1,4)</sup> Association with secondary degeneration

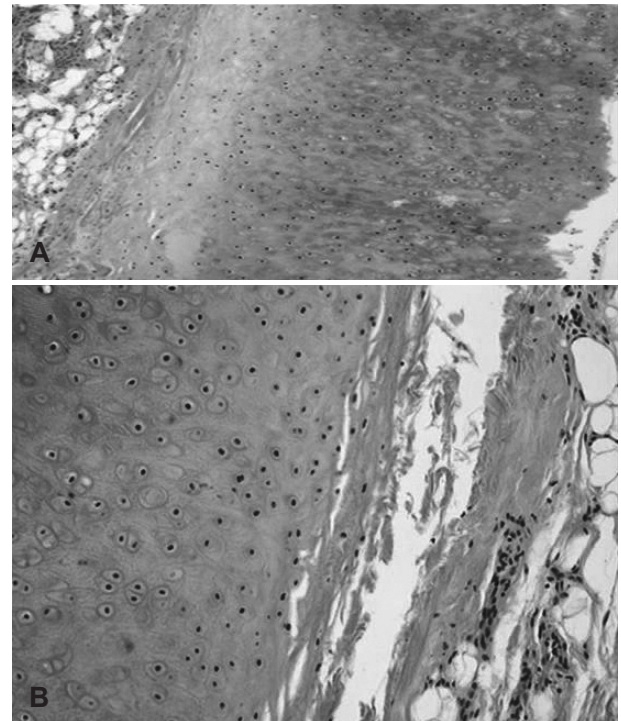
within the matrix, such as cystic change, ossification, fibrosis, mucinous change, and calcification as in the presenting case, requires differentiation from other soft-tissue tumors. The diseases to be differentiated include tumoral calcinosis, calcifying aponeurotic fibroma, ectomesenchymal chondromyxoid tumor, and chondrosarcoma.<sup>5,6)</sup> The etiology of extraskeletal chondroma is uncertain. The following are 3 hypotheses that have been proposed.<sup>2)</sup> The first hypothesis suggests of the cartilage cells originated from the skeletal structure migrating to the adjacent connective tissue; the second proposes a conversion of the precartilaginous tissues that are in the ligament attachment area at the activation period; the last hypothesis proposes a metaplasia of synovial cells differentiating as cartilaginous cells.

Treatment for chondroma usually involves wide local resection. It may recur in 10% to 15% cases; nevertheless, even in

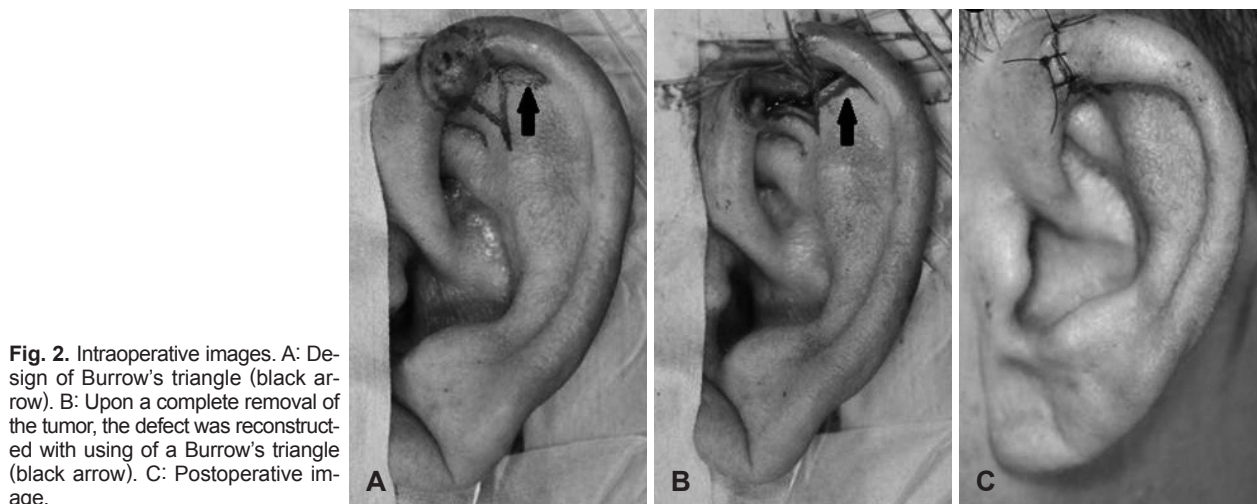
recurred cases, local resection is sufficient.<sup>1,2)</sup> However, excision of the tumor located in helix of the auricle requires a reconstruction of the defect, if it is bigger than 1 to 1.5 cm. Many techniques have been described to treat a defect of the helix secondary to tumor excision, and the advancement of the helix by placing a Burow's triangle in the scapha is preferred whenever possible. In the presenting case, the defect measuring 1.5 cm in diameter, was successfully reconstructed with advancement of the helix using a Burow's triangle in the scapha. No irregularity in form and contour was observed dur-



**Fig. 1.** A: Preoperative photograph shows a 1.5×1.5 cm sized painless hard mass located on the superior portion of the helix. B: Accompanying nodular irregularity (black arrow) was noted in the mass.



**Fig. 3.** Histopathologically. A: The tumor consists of hyaline cartilage and collagenous fibrous tissue (H&E stain, ×40). B: The hyaline cartilaginous tissue contains homogeneous chondrocytes with round nuclei and chondrocytic lacunae (H&E stain, ×200).



**Fig. 2.** Intraoperative images. A: Design of Burrow's triangle (black arrow). B: Upon a complete removal of the tumor, the defect was reconstructed with using of a Burrow's triangle (black arrow). C: Postoperative image.

ing a postoperative follow-up.

We report a case of a very rare extrasketal chondroma that occurred in the auricle with a review of the literature.

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